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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,657	06/24/2003	James A. DiCarlo	61011.00005	1278

7590 08/08/2006  
Squire, Sanders & Dempsey LLP  
14th Floor  
8000 Towers Crescent Drive  
Tysons Corner, VA 22182

EXAMINER
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DIXON, MERRICK L

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/601,657

Applicant(s)

DICARLO ET AL.

Examiner

Merrick Dixon

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 5-31-06.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-15 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
MERRICK DIXON  
PRIMARY EXAMINER

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2

Claims 1,4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rocher et al(US 5476685) in view of Fehrenbacher et al(US 6506483 B1). ). The primary reference to Rocher et al(US 5476685) teaches the claimed non-oxide ceramic fibers with specific coating thereon- col 1, lines 19-42; col 1, lines 59-63.; col 2, line 12-13; col 6, lines 56-58. Although the cited primary reference substantially teaches the claimed invention , it is however silent about its fibers being stable. The secondary reference to Fehrenbacher et al , however, teaches that it ius known in the art to include dimensionally stable fibers in similar ceramic composite material as primary reference- claim 1; col 3, lines 1-29; col 6, lines 51-65. it would have been obvious to one of ordinary skill in the art at the time the invention is made to combine the teachings of the cited secondary reference and utilize such types fibers, in the absence of unexpected results motivated by the desire to improve oxidation resistance to the composite – col 2, lines 60-63. The reference teaches silicon carbide in col 3, lines 3-27; see primary reference. Concerning claim 4, the reference teaches constituent stability in col 2, lines 60-67; col 2, lines 19-22. the reference teaches silicon carbide in col 3, lines 25-26.

3

Claims 2,3,6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rocher et al(US 5476685) in view of Singh et al(US 5945166) and Fehrenbacher et al ('483 B1). The cited primary reference teaches the basic claimed invention including a ceramic matrix composite comprising non-oxide ceramic fibers with a coating thereon, as discussed above, inter alia. Although the primary reference heat treats its product( col 2, lines 7-22, the reference fails to expressly teach such treatment to manipulate stress in the matrix and further shrink its product. The primary reference fails to teach specific types fiber material. The reference to Singh et al, however teaches these aspects in col 2, lines 5-7; col 6, claim 6. Further , Fehrenbacher et al teaches employing specif types fiber material(see above). It would have been obviuous to one of ordinary skill in the art at the time the invention is made to combine the teachings of Singh et al and Fehrenbacher et al and both utilize specific type fiber material and further facilitate stress manipulation in such composite in Rocher et al, in the absence of unexpected results motivated by the desire to produce composite with desired properties- col 2, lines 8-19; col 3, lines 24-29. Also, see Fehrenbacher et al (above). Concerning claims 6 and 7, the primary reference teaches dimensional unstable coating- col 2, lines 60-65; col 2, lines 55-59. The primary reference teaches silicon carbide coatings in col 3, lines 5-14.

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4.

Claims 8,9 and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rocher et al(US 5476685) in view of Fehrenbacher et al ('483 B1)..

The primary reference teaches the claimed process including selecting specific material, forming non-oxide fibers, coating the fibers and heating the resulting material to form a composite- col 1, lines 59-66; col 2, lines 7-33. Fehrenbacher et al('483 B1) more clearly teaches specific types fiber material used during similar process like that of the primary reference. The reference teaches that it is known in the art to include dimensionally stable fibers in similar ceramic composite material as primary reference- claim 1; col 3, lines 1-29; col 6, lines 51-65. It would have been obvious to one of ordinary skill in the art at the time the invention is made to combine the teachings of the cited secondary reference and utilize such types fibers, in the absence of unexpected results motivated by the desire to improve oxidation resistance to the composite – col 2, lines 60-63.

Concerning claim 9, the reference teaches debonding of the constituents in col2, lines 51-64. the reference teaches similar coating material possessing identical properties as claimed by virtue of the coating material is identical- see above.

Concerning claims 13, 14 and 15, it is submitted the types articles and its characteristics/properties used during the claimed process are of no patentable consequences to the instant question for patentability which must be manipulatively distinct.

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. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rocher et al(US 5476685) in view of Singh et al(US 5945166) and Fehrenbacher et al ('483 B1)... The reference teaches the claimed process as discussed above, inter alla. The primary reference, however, fails to expressly teach specific types material used during its process and further fails to teach such treatment as claimed to manipulate stress in the matrix and further shrink its product. The reference to Singh et al, however teaches these aspects in col 2, lines 5-7; col 6, claim 6. It would have been obvious to one of ordinary skill in the art at the time the invention is made to combine the teachings of the cited references to Singh et al and Fehrenbacher et al ('483 B1) and facilitate such composite shrinking in Rocher et al, and further utilize specific types material, as taught by Fehrenbacher et al ('483 B1), in the absence of unexpected results motivated by the desire to produce composite with desired properties- col 2, lines 8-19; col 3, lines 24-29( Singh et al('166).

6

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Reynolds(US 6277440 B1) is cited of interest to show the state of the art..

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Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

8

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9

Applicants who wish to send a facsimile (draft copies) for the examiner's immediate review can do so by using the Examiner's personal fax number at 571-273-1520. The faxing of all papers must conform with the notice published in the Official Gazette, 1096 O.G. 30 ( November 15, 1989). **NOTE: All facsimiles sent to the examiner's personal fax number should be in draft-forms and will be treated as informal.**

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**Same facsimiles will not be entered** in the related applications unless

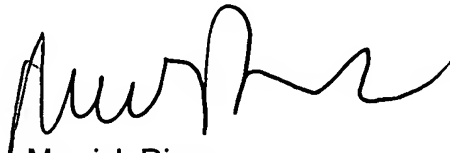
**otherwise agreed and noted by the examiner.**

**The fax number for all other fascimile is 571-273-8300.**

Information about **the status of an application** may be obtained from the Patent Information Retrieval system (**Private PAIR**).

Status inquires for **published applications** may be retrieved from either **Private PAIR** or **Public PAIR**. Questions about the PAIR system should be directed to the Electronic Business Center at **866-217-9197**.

Any questions concerning the instant communication should be directed to Examiner Dixon, at 571-272-1520, Mondays, Wednesdays and Thursdays, between 12 noon and 8 PM, eastern time .

A handwritten signature in black ink, appearing to read 'Merrick Dixon', with a stylized, cursive script.

Merrick Dixon

Primary Examiner

Group 1700